

BOLBITIS THOMMANKUTHIANA (LOMARIOPSIDACEAE), A NEW SPECIES OF FERN FROM INDIA

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ABSTRACT

Bolbitis thommankuthiana, a new species of fern from Kerala, India, is described.

KEY WORDS: Lomariopsidaceae, *Bolbitis thommankuthiana*, India, Ferns, Pteridophyta.

RESUMEN

Se describe *Bolbitis thommankuthiana*, una nueva especie de helecho de Kerala, India.

INTRODUCTION

In his monograph of the genus *Bolbitis* Schott, Hennipman (1977) recognized 44 species and 13 hybrids. Since that time, 17 new taxa have been described, including two from Kerala (Manickam & Irudayaraj 1992; Nayar & Geevarghese 1993). During recent floristic explorations in the Western Ghats of Kerala, I encountered an interesting population of plants growing on exposed wet boulders and rocks in streams at an elevation of 400 m. Since this material does not agree with descriptions of any of the known species of *Bolbitis*, it is described here as new.

Bolbitis thommankuthiana Nampy, sp. nov. (**Figs. 1, 2**). TYPE: INDIA. KERALA. Idukki Dt.: Thommankuthu, alt. 400 m, 26 Dec 1996, Nampy S 426 (HOLOTYPE: CALI; ISOTYPE: K).

Bolbitis thommankuthiana, *B. semicordata* affinis, sed ab ea statu minore, squamis rhizomatis clathratis distincte bicoloribus, rhachidi late alata, alis ad rhizoma extendentibus, sporis fuscioribus exina dense plicata, bulbillis foliaribus nullis facile distinguenda.

Plants 10–13 cm tall. Rhizome 1.5–2 mm thick, short-creeping, sclerenchyma strands 2–4, without circumvascular sheath. Rhizome scales ovate-lanceolate, pseudo-peltate, gradually tapering to a glandular apex, bicolorous, central cells blackish, margin pale, glandular. Fronds clustered, dimorphic, pinnate, scaly along the stipe and occasionally the costa. Sterile fronds 6–13 cm long, 2.2–3 cm broad, pinnae 4–6 pairs; terminal pinna conform with the lateral pinnae. Stipe 2–3.5 cm with wings ca. 1 mm wide. Pinnae sub-opposite to alternate, 1–2.3 × 0.5–0.7 cm, 2.5 cm apart, acroscopic side broadly cuneate, basiscopic side narrowly cuneate, herbaceous, apex blunt to acute, margin shallowly lobed with short setae; lacking foliar bulbils; veins anastomosing to form a row of costal areoles, extra costal free veins present. Fertile fronds to 10.5 cm long, pinnae acrostichoid, 4–7 mm long. Sporangium 261 × 226 µm. Annulus 13 or 14 celled. Spores monolete, bilateral, 41 × 31 µm, dark with densely folded exine.

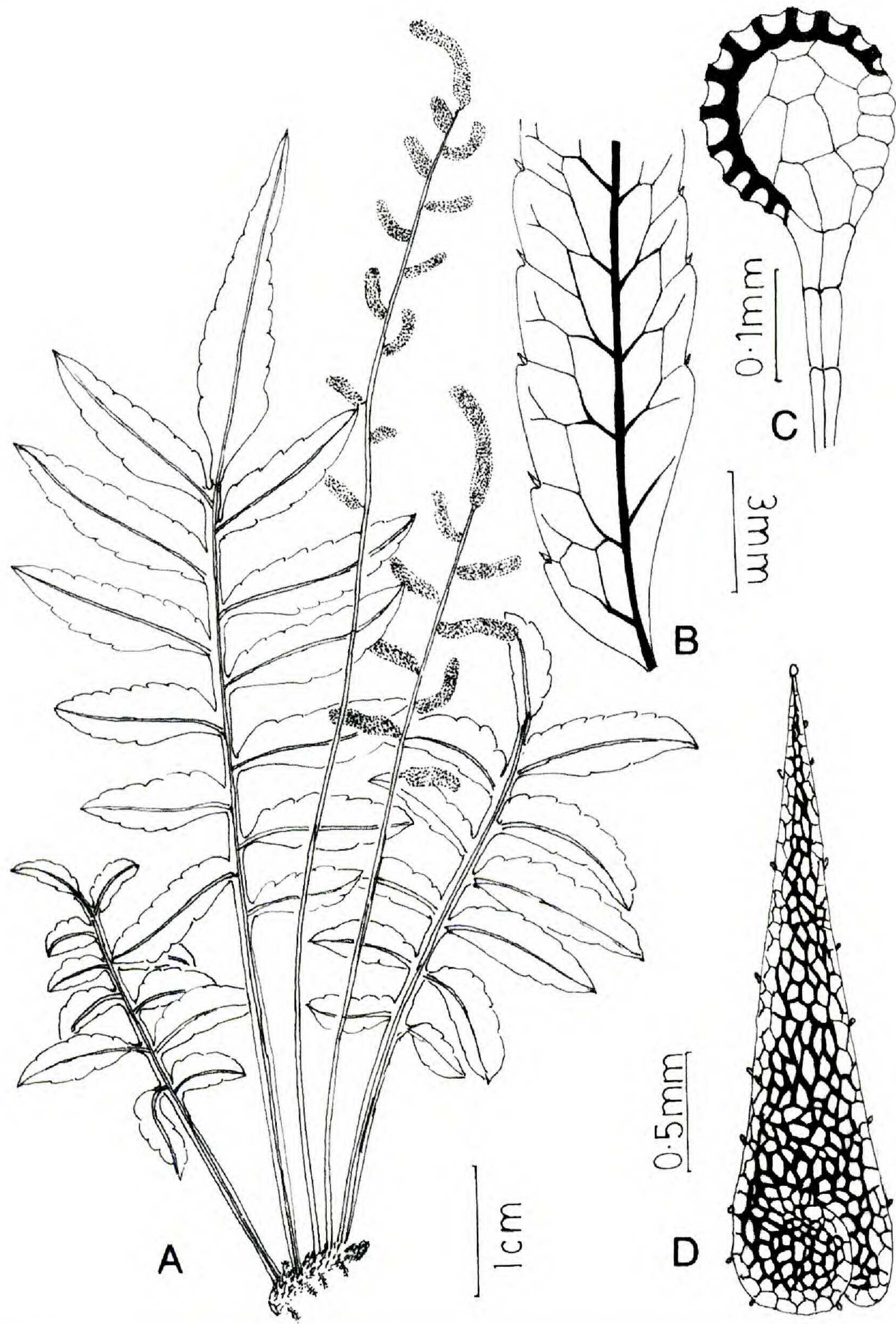


FIG. 1. *Bolbitis thommankuthiana* Nampy. A. Habit; B. Venation; C. Sporangium; D. Rhizome Scale.

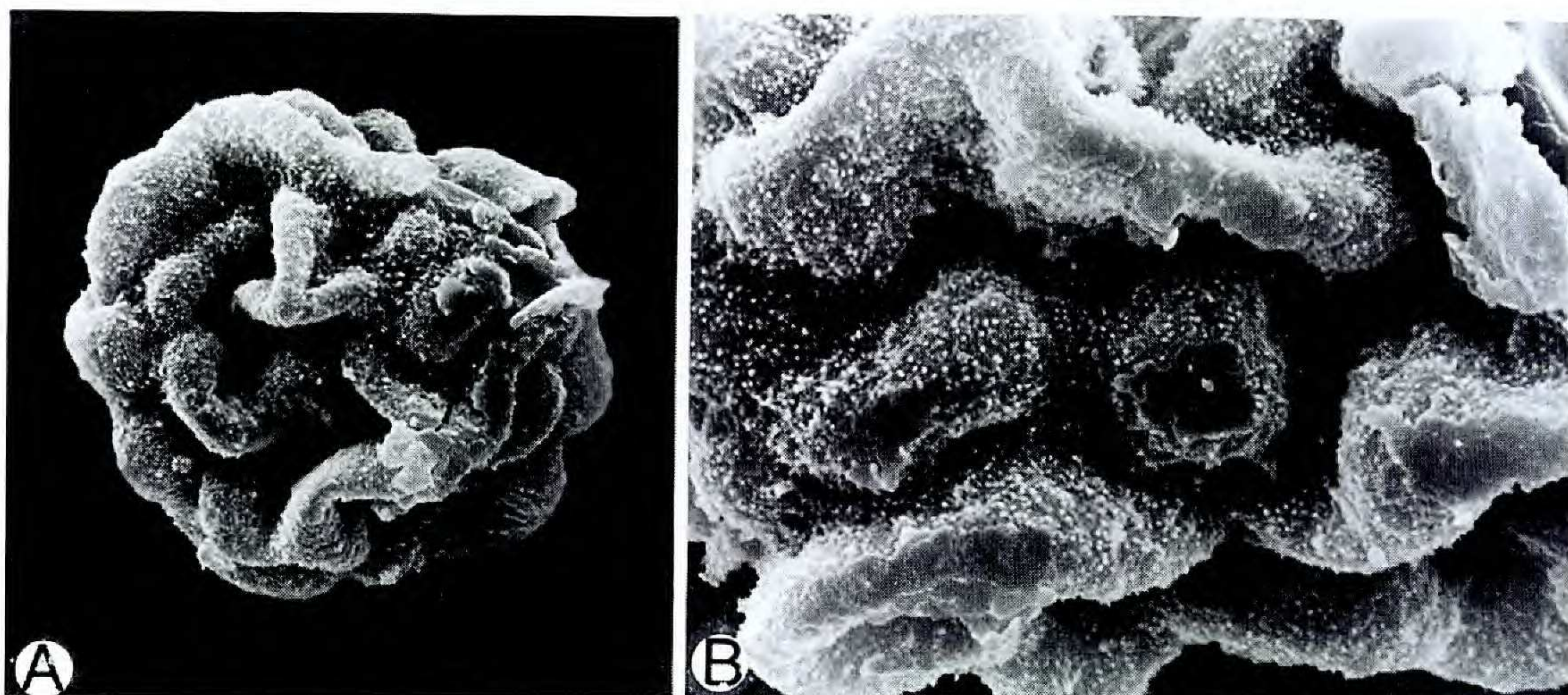


FIG. 2. SEM photograph of the spore of *Bolbitis thommankuthiana* Nampy. A. Spore x 2000; B. Detail of perispore x 5000.

Etymology.—The species is named after the type locality Thommankuthu, a water fall at an elevation of 400 m in wet evergreen forests of Kerala.

Distribution and habitat.—Known only from three localities in the Western Ghats of Kerala, usually found growing on boulders and rocks in streams.

Additional specimens examined: **INDIA. KERALA. Idukki Dt.**: Thommankuthu, 1 Jan 1995, *Nampy* S 75 (CALI). **Kozhikode Dt.**: Vellarimala, 11 Aug 1995, *Nampy* S 74 (CALI). **Pathanamthitta Dt.**: Kulathupuzha, 29 Nov 1974, *Shyamala* CU 9366 (CALI).

Notes.—*Bolbitis thommankuthiana* is closely allied to *B. semicordata* but can readily be distinguished by its smaller size, broadly winged rachis, the wings extending to the rhizome and complete absence of foliar bulbils. In *B. semicordata* the plants are 15–70 cm tall, wings usually below 0.5 mm, which are not extending to the rhizome and with foliar bulbils. I have examined the type of *B. semicordata* (K) as well as other material of this species and found that these two species are not connected by any intermediates.

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